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# Psychometric Properties of the Child PTSD Symptom Scale in Latino Children

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The Child PTSD Symptom Scale (Foa, Johnson, Feeny, & Treadwell, 2001) is a self-report measure of posttraumatic stress disorder symptoms (PTSD) in children and adolescents. Despite widespread use of this measure, no study to our knowledge has examined its psychometric properties in Latino children. This study examined the factor structure, internal consistency, and convergent validity of the measure utilizing a sample of 161 Latino students ( $M = 11.42$  years,  $SD = 0.70$ ) at high risk of exposure to community violence. Confirmatory factor analyses suggested that a 3-factor model consistent with the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text rev.; *DSM-IV-TR*; American Psychiatric Association, 2000) provided the best fit to the data. Internal consistency of the total scale and subscales was high when completed in English or Spanish. All Child PTSD Symptom Scale scores were positively correlated with violence exposure. As additional evidence of convergent validity, scores evidenced stronger correlations with internalizing symptoms than with externalizing symptoms. Results supported the use of the Child PTSD Symptom Scale as a measure of PTSD severity in Latino children, but additional research is needed to determine appropriate clinical cutoffs for Latino youths exposed to chronic levels of violence. Implications for clinical practice and future research are discussed.

According to nationally representative surveys, Latino youths are at increased risk of being exposed to violence relative to non-Hispanic White youths (Crouch, Hanson, Saunders, Kilpatrick, & Resnick, 2000). For Latinos living in disadvantaged communities, rates of exposure to violence are particularly high (63%–94%; Gudiño, Nadeem, Kataoka, & Lau, 2011; Kataoka et al., 2009). In a meta-analysis of the effects of community violence exposure on youths, Fowler, Tompsett, Braciszewski, Jacques-Tiura, and Baltes (2009) found that witnessing, being the victim of, and hearing about community violence were all robust predictors of posttraumatic stress disorder (PTSD) symptoms. Furthermore, effect sizes of the association between exposure to community violence and PTSD symptoms were particularly large in Latino samples relative to other racial/ethnic groups (Fowler et al., 2009). Latinos constitute 23% of the population under age 18 in the United States (Pew Research Center, 2011) and this growing segment of the population appears to be at heightened risk of being exposed to violence and developing PTSD symptoms.

The Child PTSD Symptom Scale (Foa, Johnson, Feeny, & Treadwell, 2001) is a widely used self-report measure of PTSD symptom severity in children and adolescents. It has been used in research with samples of Latino youths (e.g., Kataoka et al., 2003), immigrant youths (Jaycox et al., 2002), and ethnically diverse youths (Jaycox et al., 2010; Mullett-Hume, Anshel, Guevara, & Cloitre, 2008; Stein, Jaycox, Kataoka, Rhodes, & Vestal, 2003) and has been translated into several languages, including Spanish (Gillihan, Aderka, Conklin, Capaldi, & Foa, 2013; Kataoka et al., 2009). Although the measure is widely used in research with ethnically diverse youths, there are limited psychometric data about its use in such populations. For example, psychometric properties of the scale were originally examined utilizing a sample of 75 children (89% Caucasian) ages 8–15 years who were exposed to the 1994 Northridge, California earthquake more than 2 years prior to the study (Foa et al., 2001). Rachamim, Helpman, Foa, Aderka, and Gilboa-Schechtman (2011) subsequently examined the psychometric properties of a Hebrew version in a sample of treatment-seeking Israeli youths. A recent examination of the psychometric properties of the Child PTSD Symptom Scale using a more ethnically diverse sample ( $N = 91$ ; 64% African American, 21% Caucasian, and 11% Hispanic) focused exclusively on adolescent female sexual assault survivors (Gillihan et al., 2013). Lastly, Nixon and colleagues (2013) examined the psychometric properties of the measure in a sample of children and adolescents (ages 6–17 years) from Australia and the United Kingdom presenting to a pediatric emergency room following exposure to single incident trauma ( $n = 185$ ) or those

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This research was supported by a Dissertation Research Grant from the University of California Institute for Mexico and the United States (UC MEXUS).

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DOI: 10.1002/jts.21884

undergoing treatment for PTSD ( $n = 65$ ). Although the measure is commonly used in research, to our knowledge, these are the only studies that have specifically examined its psychometric properties and no study has examined its factor structure.

Despite increased attention to the negative impact of PTSD on youths, there is considerable debate about the measurement of PTSD. Whereas the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text rev.; *DSM-IV-TR*; American Psychiatric Association [APA], 2000) relied on expert clinical consensus and conceptualized PTSD as consisting of 3-symptom clusters—reexperiencing, avoidance/numbing, and hyperarousal symptoms—an extensive literature examines how well this conceptualization aligns with factor analytic research. There appears to be support for the superiority of two 4-factor models of PTSD over the *DSM-IV-TR* model (e.g., Friedman, Resick, Bryant, & Brewin, 2011; King, Leskin, King, & Weathers, 1998; Rademaker et al., 2012; Simms, Watson, & Doebbeling, 2002). In particular, a model proposed by King and colleagues (1998) that includes reexperiencing, hyperarousal, and separate avoidance and numbing factors as well as a model proposed by Simms and colleagues (2002) that includes reexperiencing, avoidance, hyperarousal, and dysphoria factors appear to have the strongest support. More recent research, however, suggests that the superiority of these 4-factor models of PTSD may be due to modeling artifacts and argues that a 3-factor model of PTSD, as described in the *DSM-IV-TR*, is in fact more appropriate (Marshall, Schell, & Miles, 2013).

It should be noted that much of the factor analytic research on PTSD has been conducted with adults, yet more recent research has not clarified the factor structure of PTSD in youths. In a recent pair of studies examining the psychometric properties of the UCLA PTSD Reaction Index (Steinberg, Brymer, Decker, & Pynoos, 2004) in more than 6,000 children and adolescents, exploratory factor analyses identified three factors consistent with those in *DSM-IV-TR* (Steinberg et al., 2013). Confirmatory factor analyses, however, suggested that a 4-factor dysphoric arousal model proposed by Simms et al. (2002) provided the best fit to the data (Elhai et al., 2013). This ongoing debate in the literature contributed to the inclusion of a distinct avoidance cluster in the *DSM-5* (APA, 2013), where PTSD is reconceptualized as consisting of four factors (reexperiencing symptoms, avoidance symptoms, negative alterations in cognition and mood, and alterations in arousal and reactivity). In addition to these changes to the structure of PTSD, three new symptoms were added and the language describing several symptoms was revised.

Beside the structure of PTSD, there is also debate about the applicability of factors derived from general samples to specific racial/ethnic groups. In their review of the cross-cultural validity of PTSD, Hinton and Lewis-Fernández (2011) concluded that there was substantial evidence for the validity of PTSD across cultures. They also noted, however, that there was considerable cross-cultural variability that required further study. For example, they highlighted potential differences in the salience

of avoidance/numbing symptoms and the prevalence of somatic symptoms across cultures and they provided recommendations for revising the descriptions of symptoms to make them more applicable across cultures (Hinton & Lewis-Fernández, 2011). Differences in the language used to complete a measure are an additional challenge that may arise when studying the measurement of PTSD across racial or cultural groups. Thus, some studies have examined the measurement invariance of PTSD across different ethnic samples (e.g., Hoyt & Yeater, 2010) whereas others focused on testing the measurement invariance of versions of a measure in different languages (e.g., Marshall, 2004).

An issue that may impact the clinical utility of the Child PTSD Symptom Scale involves the appropriate clinical cutoff score to use for various populations. The original clinical cutoff score of 11 recommended by Foa and colleagues (2001) was obtained by using discriminant function analysis with children's scores on another self-report measure, the Child Post-Traumatic Stress Disorder Reaction Index (Pynoos et al., 1987), which was used as the criterion. Guidelines, however, developed from clinical experience and intervention studies utilizing the measure suggest that a cutoff of 14 or 15 may be more appropriate (International Society for Traumatic Stress Studies [ISTSS], 2013; Jaycox et al., 2010; Stein et al., 2003). It is unclear how this higher clinical cutoff was derived, but presumably it helps in identifying children with more severe PTSD symptoms. In a recent study of youths ages 6–17 years, Nixon and colleagues (2013) recommend a clinical cutoff score of 16 to maximize sensitivity and specificity. Notably, this study was the only one to use a structured clinical interview as the validity criterion for determining the most appropriate cutoff score.

Despite somewhat limited psychometric data, the Child PTSD Symptom Scale has several strengths. In addition to being widely used in research, it is a relatively brief measure (17 items) that assesses all symptoms of PTSD as defined by the *DSM-IV-TR*, administration and scoring are easy and require minimal training, and it is available at no cost. Given the many strengths and widespread use of the Child PTSD Symptom Scale, it is important to examine its psychometric properties in Latino youths—a growing and high-risk segment of the population.

This study examined the psychometric properties of the Child PTSD Symptom Scale in a school sample of Latino boys and girls exposed to chronically elevated levels of community violence. We first examined the factor structure of the measure, contrasting a single-factor model of PTSD with a *DSM-IV-TR* model including separate reexperiencing, avoidance, and hyperarousal factors. An exploratory aim also considered whether the measure was consistent with 4-factor models of PTSD proposed by King and colleagues (1998) and Simms and colleagues (2002). We subsequently examined the internal consistency reliability of the measure in both English and Spanish. To examine the convergent validity of the scale, we tested associations between Child PTSD Symptom Scale scores and indices of depression, anxiety, oppositional-defiant, and conduct

disorder symptoms as well as severity of exposure to community violence.

## Method

### Participants

Participants included 161 Latino students (56.5% girls) with a mean age of 11.42 years ( $SD = 0.70$ ) who attended a large, urban public middle school in southern California. The majority of children had parents who were immigrants from Latin America (97.2% of mothers and 97.2% of fathers) and 37.3% of children were immigrants themselves. The school was located in a community where 20% of families live below the federal poverty level (U.S. Census Bureau, 2009) and the majority of students at the school (91.4%) identify as Latino/Hispanic. Two notorious gangs are found in this area of the city and police department crime statistics indicated that 76.6 violent or property crimes per 10,000 residents were reported during a 3-month period following the start of data collection. Data for this study were collected as part of a larger study examining risk and protective factors for Latino children exposed to community violence (see Gudiño, 2013; Gudiño, Nadeem, Kataoka, & Lau, 2011, 2012).

### Measures

The Child PTSD Symptom Scale (Foa et al., 2001) was used to assess PTSD severity. The measure includes 17 items that parallel *DSM-IV-TR* reexperiencing (five items), avoidance (seven items), and hyperarousal (five items) symptoms of PTSD. Children indicate how often they have experienced each symptom in the past month using a 4-point scale (0 = *not at all*, 3 = *5 or more times a week*). A total PTSD severity score is calculated by summing all items whereas reexperiencing, avoidance, and hyperarousal severity scores are calculated by summing relevant subscale items. Foa and colleagues (2001) recommend using a PTSD severity clinical cutoff score of 11. Additional psychometric properties in this sample are reviewed below.

Child exposure to community violence in the previous 6 months was assessed by the Exposure to Violence Scale (Singer, Anglin, Song, & Lunghofer, 1995). The Exposure to Violence Scale included eight items assessing witnessed violence (e.g., seeing someone being beaten up), personal victimization (e.g., being slapped, punched, or hit), and witnessed weapon-related violence (e.g., seeing someone attacked with a knife or gun). Using a 4-point scale (0 = *never*, 3 = *very often*), students rated how often they had been exposed to each type of violence in the past 6 months. The measure has been used in large samples of ethnically diverse youths and has demonstrated good psychometric properties (Kataoka et al., 2003; Singer et al., 1995). A total violence exposure score, calculated by summing all items, demonstrated good internal consistency in this sample ( $\alpha = .79$ ).

The *DSM*-oriented scales from the Youth Self-Report (Achenbach & Rescorla, 2001) were used to assess additional symptoms of psychopathology. The Youth Self-Report is a widely used measure of emotional and behavioral problems in youths, with the *DSM*-oriented scales demonstrating good psychometric properties in a large and ethnically diverse sample (Achenbach, Dumenci, & Rescorla, 2003). The measure includes 112 statements and youths indicate how true each statement is for them in the past 6 months using a scale ranging from 0 = *not true* to 2 = *very true*. The internal consistency of the *DSM*-oriented subscales in this sample was acceptable (see below). Symptoms of depression and dysthymia were assessed with the 13-item Affective Problems Scale ( $\alpha = .75$ ) whereas symptoms of separation anxiety, generalized anxiety, and specific phobia were assessed with the 6-item Anxiety Problems Scale ( $\alpha = .63$ ). Symptoms of conduct disorder were assessed using the 15-item Conduct Problems Scale ( $\alpha = .75$ ) whereas the 5-item Oppositional Defiant Problems Scale ( $\alpha = .71$ ) was used to assess symptoms of oppositional-defiant disorder.

### Procedure

From 10 sixth-grade and 2 mixed-grade homeroom classrooms, 331 students were recruited for participation by distributing an informational letter and consent form for students to deliver to their caregivers. Students who returned a signed consent form received a small incentive (e.g., a pencil) and classrooms received a reward if at least 95% of students returned a consent form. One-hundred seventy parents provided consent for their child to participate in the study, representing an overall recruitment rate of 51.4%. Analyses for this study focus on the 161 students who completed study measures at the follow-up assessment, when relevant measures were administered.

After providing assent, students completed study measures in groups at a time approved by the school. All study materials were available in English and Spanish and students were given the option of selecting which language to complete measures in. The majority of students completed measures in English (80.7%). When a measure did not have an existing Spanish translation, a Spanish version was created through the recommended process of translation, back-translation, and subsequent reconciliation of discrepancies (Marín & Marín, 1991). When completing measures, students marked their responses on surveys while research staff read all instructions and items aloud and provided individual assistance as needed. Students received a \$15 merchandise gift card for their participation. Study procedures were approved by the institutional review board at the University of California, Los Angeles.

### Data Analysis

Confirmatory factor analysis (CFA) using maximum likelihood estimation with robust standard errors (MLR) was used to examine the factor structure of the Child PTSD Symptom Scale. Given that the scale is based on a 3-factor model of PTSD as detailed in the *DSM-IV-TR*, we first tested a model that

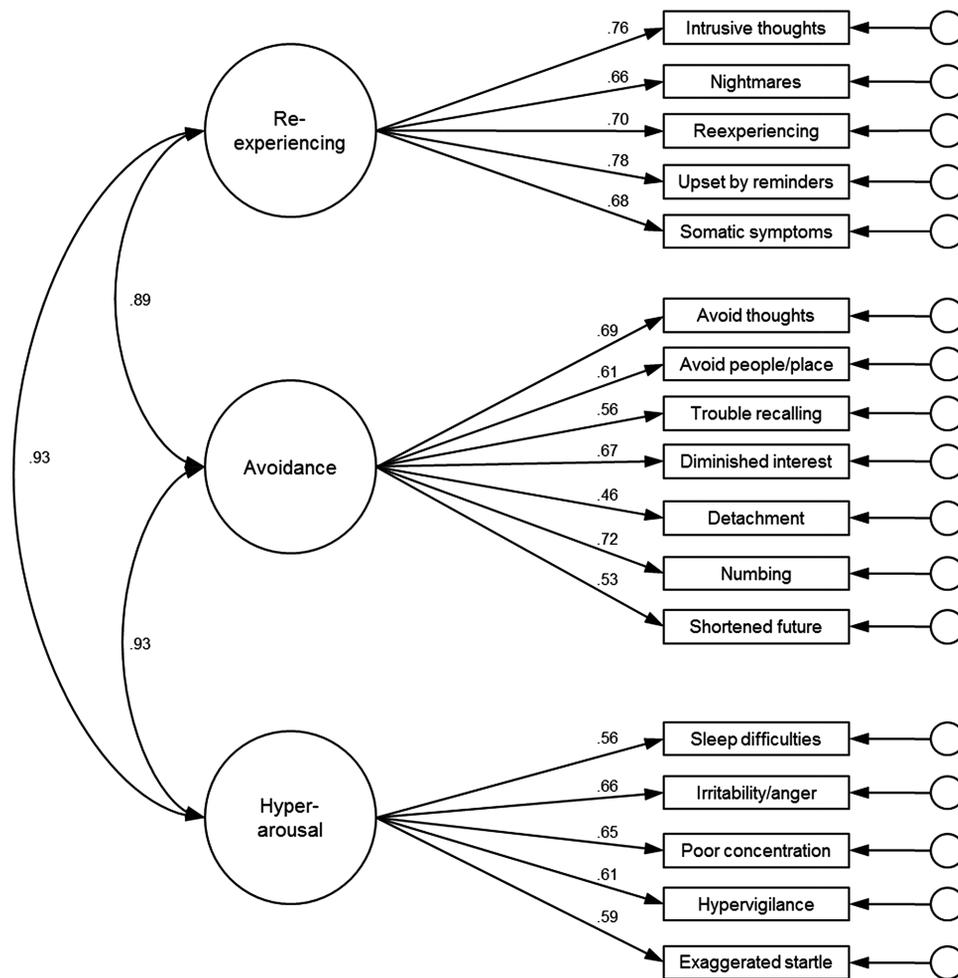


Figure 1. Confirmatory factor analysis of the Child PTSD Symptom Scale.

included reexperiencing, avoidance, and hyperarousal factors (Figure 1) against a single-factor model of PTSD.

As an exploratory aim, we also tested the 4-factor models described by King and colleagues (1998) and Simms and colleagues (2002). In the King and colleagues (1998) model, indicators of the reexperiencing and hyperarousal factors were the same as those for the 3-factor *DSM-IV* model. Avoidance and numbing symptoms, however, no longer loaded on the same factor. Instead, items assessing avoidance of thoughts and people/places associated with the trauma were included as two indicators of an avoidance factor. The remaining five indicators including diminished interest, trouble recalling aspects of the trauma, feelings of detachment, restricted range of affect, and a sense of foreshortened future were included as indicators of an emotional numbing factor. In the model proposed by Simms and colleagues (2002), the reexperiencing and avoidance clusters are constructed as in the model by King. Only hypervigilance and an exaggerated startle response, however, are included as indicators of an arousal cluster and all remaining symptoms are included in a dysphoria cluster.

CFA analyses were conducted using Mplus version 6 (Muthén & Muthén, 1998–2011). There were few missing data, with only 1.2% of the scale items missing. Missing data were handled by estimating models using full information maximum likelihood (FIML) estimation. The overall fit of the model was evaluated using the MLR  $\chi^2$ , the root-mean-square error of approximation (RMSEA), standardized root-mean-square residual (SRMR), the robust comparative fit index (CFI), and the Tucker–Lewis Index (TLI). Good model fit was defined as a nonsignificant  $\chi^2$  value, CFI and TLI values greater than .95, RMSEA values below .07, and SRMR values below .08 (Hu & Bentler, 1999; Kline, 2010; MacCallum, Browne, & Sugawara, 1996). Due to the nonnested nature of the single-factor and 3-factor PTSD models (Savalei & Kolenikov, 2008), Akaike's information criterion (AIC) and the sample size-adjusted Bayesian information criterion (ABIC) were used to compare these models. Lower AIC and ABIC values represent better relative fit. Chi-square difference tests were used to compare model fit of the 3- and 4-factor models (Satorra & Bentler, 2001).

Table 1  
Bivariate Correlations Among Study Variables

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Violence exposure	—									
2. PTSD total	.59***	—								
3. PTSD reexperiencing	.53***	.90***	—							
4. PTSD avoidance	.53***	.91***	.73***	—						
5. PTSD arousal	.54***	.90***	.75***	.72***	—					
6. Affective problems	.49***	.74***	.68***	.64***	.71***	—				
7. Anxiety problems	.32***	.65***	.62***	.54***	.63***	.73***	—			
8. Oppositional defiant problems	.42***	.57***	.56***	.42***	.57***	.59***	.52***	—		
9. Conduct problems	.57***	.46***	.43***	.39***	.43***	.58***	.37***	.68***	—	
10. Child age	.13	-.03	-.06	-.01	-.01	-.01	.00	.03	.09	—
11. Child sex	-.09	.17*	.19*	.12	.16*	.19*	.22**	.29***	.13	-.08

Note.  $N = 161$ . Child sex: 1 = girl, 0 = boy. PTSD = posttraumatic distress disorder.  
\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

After examining the factor structure, we examined the internal consistency of the subscales and total score (overall and separately for English and Spanish versions of the measure) using Cronbach's  $\alpha$  coefficient. Convergent validity of the scale was examined by calculating Pearson's  $r$  between the PTSD severity scores and relevant indices of validity. Fisher's  $r$ -to- $z$  transformations were performed to compare the strength of relationships (Preacher, 2002).

## Results

The majority of students (91.9%) reported at least some exposure to community violence in the previous 6 months. On average, students endorsed 3.58 ( $SD = 1.95$ ) types of exposure to violence as occurring at least "sometimes" in the past 6 months. The mean PTSD total score was 12.11 ( $SD = 9.56$ ), and 52.8% of subjects met or exceeded the clinical cutoff of 11 established by Foa and colleagues (2001). When using a clinical cutoff score of 15 or greater, 36.6% of subjects were identified as having clinically elevated PTSD symptoms. Furthermore, 32.3% of children were identified as having probable PTSD when the cutoff of 16 recommended by Nixon and colleagues (2013) was used. Youth age was not significantly correlated with violence exposure or PTSD scores. Youth gender was not significantly associated with violence exposure, but was significantly correlated with PTSD scores, such that girls reported higher levels of total PTSD, reexperiencing, and hyperarousal symptoms (see Table 1).

A single-factor model of PTSD, with all Child PTSD Symptom Scale items loading on one factor, provided an adequate fit to the data,  $\chi^2(119) = 161.75$ ,  $p = .006$ , CFI = .94, TLI = .93, RMSEA = .05, 90% confidence interval (CI) [.03, .07], and SRMR = .05. A 3-factor *DSM-IV-TR* model of PTSD, with scale items serving as indicators on their respective re-experiencing, avoidance, and hyperarousal factors, presented a good fit to the data,  $\chi^2(116) = 150.07$ ,  $p = .018$ , CFI = .95,

TLI = .95, RMSEA = .04, 90% CI [.02, .06], and SRMR = .05. The scale items that loaded on each factor and model coefficients are presented in Figure 1. This *DSM-IV-TR* model presented a better fit to the data than a single-factor model, producing lower AIC (6057.62 vs. 6067.53) and ABIC (6053.07 vs. 6063.24) values. All item loadings and correlations between latent factors were statistically significant ( $p < .001$ ; see Figure 1).

We also conducted a supplementary analysis testing 4-factor models of PTSD proposed by King and colleagues (1998) and Simms and colleagues (2002). These 4-factor models, however, could not be estimated given that the latent factors created by separating the *DSM-IV-TR* avoidance/numbing factor (avoidance and numbing in the King et al., 1998 model; avoidance and dysphoria in the Simms et al., 2002 model), evidenced correlations greater than 1. These results suggest that in this sample, items assessing avoidance and numbing are statistically indistinguishable and thus are better construed as loading onto a single latent factor.

As seen in Table 2, the total PTSD score demonstrated very high internal consistency in the overall sample and when

Table 2  
Internal Consistency of the Child PTSD Symptom Scale

Variable	Cronbach's $\alpha$		
	All subjects ( $N = 161$ )	English language ( $n = 130$ )	Spanish language ( $n = 31$ )
PTSD total	.91	.91	.92
Reexperiencing	.83	.83	.83
Avoidance	.80	.79	.86
Hyperarousal	.75	.75	.76

Note. PTSD = posttraumatic stress disorder.

considering measures completed in English and Spanish separately. The PTSD subscales also demonstrated high internal consistency, with all Cronbach's  $\alpha$  coefficients ranging above .75 in the overall sample and when considering scales completed in English and Spanish separately.

As seen in Table 1, the individual subscales and the total PTSD score were significantly correlated with community violence exposure ( $p < .001$ ). The reexperiencing, avoidance, and hyperarousal subscales were also significantly correlated with one another ( $p < .001$ ; see Table 1). The total PTSD severity score was significantly and positively correlated with the Affective, Anxiety, Oppositional-Defiant, and Conduct Problems Scales of the Youth Self-Report (see Table 1). Fisher's  $r$ -to- $z$  transformations indicated that the correlation between the PTSD total score and the Affective Problems Scale was significantly stronger than correlations between PTSD and the Oppositional-Defiant ( $z = 2.82$ ;  $p = .005$ ) or Conduct Problems ( $z = 4.15$ ,  $p < .001$ ) Scales. Furthermore, the correlation between the PTSD total score and the Anxiety Problems Scale was significantly stronger than the correlation between PTSD and the Conduct Problems Scale ( $z = 2.46$ ;  $p = .014$ ), but was not stronger than the correlation between PTSD and the Oppositional-Defiant Problems ( $z = 1.23$ ,  $p = .219$ ) Scale. PTSD severity was thus positively associated with both internalizing and externalizing symptoms, which is consistent with previous research (e.g., Fowler et al., 2009). This pattern of findings, however, provided additional evidence of convergent validity in that PTSD severity appeared to be more strongly correlated with other internalizing problems, including affective and anxiety symptoms.

## Discussion

This study examined the psychometric properties of the Child PTSD Symptom Scale in a sample of Latino school children at high risk of being exposed to community violence. The scale has previously shown good face and content validity, given that it assesses all symptoms of PTSD described in the *DSM-IV-TR*. Results of this study provided additional evidence of the construct validity of the Child PTSD Symptom Scale in Latino children. Confirmatory factor analyses suggested that the scale is a measure of PTSD that is consistent with a 3-factor model including symptoms of reexperiencing, avoidance, and hyperarousal. Whether completed in English or Spanish, the scale demonstrated high internal consistency reliability. Convergent validity was suggested by the fact that PTSD scores were significantly and positively correlated with exposure to community violence and with symptoms of both internalizing and externalizing disorders. Furthermore, PTSD severity was more strongly correlated with measures of other internalizing problems (anxiety and depression) than with measures of externalizing problems (oppositonality and conduct problems).

Although prior research suggests that exposure to trauma increases risk for developing PTSD as well as internalizing and externalizing problems (e.g., Fowler et al., 2009), our finding that PTSD severity is positively associated with symptoms of both internalizing and externalizing problems is also consistent with recent revisions to the diagnostic criteria for PTSD. First, *DSM-5* now places PTSD in a class of "Trauma- and Stress-Related Disorders" rather than classifying it as an anxiety disorder. Furthermore, there is increasing recognition of the heterogeneity of psychopathology associated with trauma exposure. For example, the description of diagnostic features associated with PTSD notes that fear-based symptoms, anhedonic or dysphoric mood states and negative cognitions, arousal and reactive-externalizing symptoms, and dissociative symptoms may be singly prominent or present in combination in a given individual (APA, 2013, p. 274).

The many strengths of the Child PTSD Symptom Scale have likely contributed to its widespread use by clinicians and researchers. Additional research, however, could improve the clinical utility of the measure. In particular, there appears to be a need to conduct research to establish appropriate clinical cutoffs to use for different populations and different screening aims. Using the clinical cutoff of 11, as recommended by Foa and colleagues (2001), Jaycox and colleagues (2002) found that 32% of a large sample of immigrant elementary school students in Los Angeles scored in the clinical range. In this study, 52.8% of Latino schoolchildren were identified as having probable PTSD when a cutoff of 11 was used whereas 32.3% were identified as having probable PTSD when a score of 16 was used.

Unfortunately, our data do not allow us to determine whether rates of PTSD were in fact higher in our sample or whether these differences are due to the two samples differing in age, ethnic composition, or other factors. Recent research by Nixon and colleagues (2013) using a structured clinical interview as the validity criterion found that a clinical cutoff score of 16 led to the most appropriate balance of sensitivity and specificity. Thus, there appears to be empirical support to bolster the use of a higher clinical cutoff, as suggested by clinical experience and previous studies (ISTSS, 2013; Jaycox et al., 2010; Stein et al., 2003). It will also be important for future research to examine the sensitivity and specificity of clinical cutoffs in racially/ethnically diverse children, children exposed to various types of traumas, and children exposed to multiple traumas.

It is important to note that the Child PTSD Symptom Scale was created to assess PTSD as described in *DSM-IV-TR* and our data suggest that the scale is consistent with this model of PTSD. It is possible that our confirmatory factor analyses did not support a 4-factor model of PTSD because such a model is not the most appropriate one for Latino children. Going forward, research will need to capitalize on the use of exploratory and confirmatory factor analytic approaches as well as tests of measurement invariance across racial/ethnic samples and across different language versions of measures of PTSD to fully tease apart questions about the factor

structure of PTSD in Latino youths. Although Hinton and Lewis-Fernández (2011) found overall support for the factor structure of PTSD across cultures, they also found significant variability in its expression and a potential need to revise symptoms to more appropriately assess PTSD in different cultures. Thus, our test of the factor structure of a widely used measure of PTSD in a sample of Latino children is an important first step, but additional research is needed to establish the optimal conceptualization of PTSD in ethnically diverse children and adolescents.

Results of this study provide overall support for the psychometric properties of the Child PTSD Symptom Scale in Latino children, particularly in terms of the measure's construct validity. Extending previous research on the measure, this study utilized a large, nonclinical sample including both boys and girls at high risk of repeated exposure to violence in their community. Furthermore, this study provided evidence for the internal consistency reliability of a Spanish version of the measure. To our knowledge, this is the first study to examine the factor structure of the Child PTSD Symptom Scale.

Despite several strengths of our study, some limitations are noteworthy. For example, although some students completed the measure in Spanish, this subsample was not large enough to allow for separate comparisons of the factor structure and convergent validity of the Child PTSD Symptom Scale in English and Spanish. Because we did not administer another measure of PTSD, we were unable to assess the measure's concurrent, criterion, or predictive validity. Given the measures administered in this study, we were also unable to fully assess the discriminant validity of the scale. Finally, the design of this study did not allow us to examine the test-retest reliability or sensitivity to change of the measure. Previous studies examining the psychometric properties of the Child PTSD Symptom Scale have provided evidence for the measure's test-retest reliability, concurrent validity, and sensitivity to change (Foa et al., 2001; Gillihan et al., 2013; Nixon et al., 2013) and it will be important for future studies to examine whether the measure also demonstrates these strong psychometric properties when used with Latino children.

The Child PTSD Symptom Scale is a widely used and clinically useful measure that has demonstrated strong psychometric properties and clinical utility in prior research. Results of this study suggest that the measure is also a psychometrically sound measure of PTSD in Latino children exposed to community violence, particularly with respect to its factor structure, internal consistency reliability, and convergent validity. Although the measure may provide an assessment of PTSD severity, ongoing research is needed to determine the optimal clinical cutoff for predicting PTSD in Latino children exposed to chronic levels of violence. The recent release of *DSM-5* necessitates that we also consider how to use existing measures in light of the revised diagnostic criteria and that we devote additional research to ensuring that our future measures of PTSD provide a psychometrically sound assessment of PTSD in a growing segment

of the population at high risk of being exposed to trauma and developing PTSD.

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